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THE ROLE OF SCIENCE AND TECHNOLOGY IN THE CONTEXT OF INTERNATIONAL SECURITY, DISARMAMENT AND OTHER RELATED FIELDS

Working paper submitted by Colombia

1. Science and technology are the great dynamic force which drives the race for arms of ever-increasing destructive capacity. This, together with the fact that thousands of scientists sucked in by the arms industry are helping to make weapons more effective, to the point that far more economic and human resources are devoted to military research and development than to research for the purposes of economic development and social welfare, alone provide sufficient reasons to fear for the fate of the human race and to seek a change in the priorities evident in today's world.

2. Science and technology have made a fundamental contribution to the configuration of every aspect of the modern world, including both those which we enjoy and those which we fear. At the same time, science and technology, depending on the way in which they are applied, the ideals which guide them, the policies of States and the behaviour of the scientific community, can and must be a dominant factor in the building of a better world. A conscious rearrangement of international priorities with respect to science and technology is therefore required, with a view to addressing the basic needs of the world population.

3. Science and technology are playing an increasingly influential role in prospects for economic growth and social welfare. Bearing in mind the enormous technological inputs required to hasten the process of development,

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* Reissued for technical reasons.

the tremendous asymmetry between research and development activities for military purposes and similar activities for civilian purposes is becoming much more marked, as is the asymmetry between the technological capacities of the developed and the developing countries. That is why there is an urgent need for the developing countries to promote cooperation, both among themselves and with the developed countries, in order to enhance their capacities in the various technological and scientific fields which make it possible to foster economic and social development at the same time as responding to the new challenges arising as a result of technological innovations in the developed countries.

In this connection, the group of eminent persons convened by the Secretary-General last October to discuss peace, development and the role of science and technology, recommended that the Centre for Science and Technology for Development should devote particular attention to the subject of converting military technologies for use in civilian activities and include that topic in its programme of work. Also, the United Nations Fund for Science and Technology for Development should allow the United Nations system to play a catalytic role in redirecting scientific and technological activities in the developing countries to conform with the development requirements of the 1990s.

4. Military research has led to the production of countless incredibly sophisticated weapons and systems which stimulate the arms race and maintain its momentum. These research and development projects create an upward spiral in the production of lethal and costly weapons, in which technological sophistication has come to be even more important than the mere quantity of arms. New scientific findings rapidly lead to technological discoveries which are immediately incorporated into new arms and weapon systems, where the pace of innovation is sharpened by the fear of lagging behind in technology. Scientific and technological progress thus creates an endless chain of actions and reactions which often far outstrip military strategies.

5. Military research reflects a disproportionate effort to ensure the destruction of potential enemies, which, in the long run, can contribute little or nothing constructive to the economy but which, nevertheless, has become an integral part of the world economic structure and is seen as one of the principal motors of economic growth and industrial progress. The conceptual flaw in this reasoning is that it provides no comparison with a situation whereby resources used in the military sector are directed to the civilian sector. Such links between military research and the economy do not alter the fact that the resources invested in military research represent a tremendous wastage of manpower, skills, talent and economic resources which, if redirected towards constructive ends, at the same order of magnitude, could transform the world economic structure for the benefit of all.

6. The links between military research and the economy warrant special consideration. It should be recalled that most basic scientific discoveries, when applied in practice, were used both to promote economic growth and for destructive purposes and that many, if not most, technologies are potentially useful in both the military and civilian sectors. This means that technological development, when successfully undertaken for economic reasons, may have civilian applications which will promote economic growth.

The United Nations study on the relationship between disarmament and development sets out an interesting approach to the subject: if it were true that military expenditure had the effect of stimulating the economy of the industrialized countries, growth should be more sluggish in those countries where military activities are of less importance; however, those countries in which military expenditure accounts for a high proportion of gross national product (GNP) are growing at a slower pace than those where the proportion is lower; Japan is a dramatic example of a country with low military expenditure and high growth and productivity rates; the economic success of the Federal Republic of Germany* during the post-war period points in the same direction.

It should be added that the effects of military expenditure on central economic planning, in terms of economic growth, as well as the effect on opportunities which stems directly from the military structures of the super-Powers, appear to be no less adverse than their effects on the free-market economy. In both cases, the economic damage caused by the escalation of the arms race is cumulative, and the more it is allowed to persist, the more difficult it will be to remedy.

7. If we adopt a coherent approach to the world of the future, it is possible that the economy may gradually be shifted away from the arms race towards a secure, just and sustainable world order. A prerequisite for such an approach would be universal acceptance of the need to link disarmament to development throughout the world. The devotion of such fantastic resources to military objectives and the complete harnessing of so many brains to destructive endeavours should weigh on the conscience of those who are, besides, aware of the dimensions of the tragic problem facing the third world. It should also be recognized that the situation of extreme poverty which affects a broad section of mankind would improve considerably if they had access to technologies considered basic in our day and age.

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* Through accession of the German Democratic Republic to the Federal Republic of Germany with effect from 3 October 1990, the two German States have united to form one sovereign State. As from the date of unification, the Federal Republic of Germany acts in the United Nations under the designation "Germany".

8. Research has transformed the nature of war and considerably increased its dangers and the possibilities for destruction. The weapons and methods of destruction used against man and his environment, such as carpet bombing and other modern methods of war aimed indiscriminately at military, civilian and environmental targets, might perhaps appear rational to their inventors but, from the human point of view, warrant only condemnation. Ethical value judgements against unnecessary brutality have given rise to international laws for the regulation of war - the Geneva Conventions. However, it remains clear - and recent history confirms - that in this era of rapid technological progress there is a serious decline in respect for those provisions of international law which regulate war.

9. The development of new technologies in military production. Arms producers see the arms market as a way of recouping the research and development costs involved in their own arms production. Innovations and increasing sophistication in the weapons sold in their turn create greater competition both among arms producers and among those who sell and buy them. This competition also promotes an ever more sophisticated arms race and heightens the threat to international peace and security.

10. Science and technology have produced custom-made arms and military equipment for use by terrorists, mercenaries and other international criminals. Plastic explosives and other highly explosive materials, automatic weapons and expensive military equipment are freely sold in an international market open to drug traffickers and criminals of all types with sufficient purchasing power. Furthermore, mercenaries, supported by the latest technologies, train these criminals in the most sophisticated techniques of terror, usually with a view to achieving the political and social destabilization of a particular country.

11. Easy access to the sophisticated arms and military equipment market, together with the illicit transfer of technology for the production of nuclear, chemical and other weapons of mass destruction, have demonstrated the need for agreement on specific international control and interdiction measures to prevent the propagation of such weapons, until we get those countries which produce them to take an irreversible decision to eliminate them entirely. This will clearly not be possible as long as the military Powers continue to see transfers of arms and technologies for the production of the most up-to-date weapons as a legitimate means of obtaining political and economic advantages, nor as long as regional Powers continue to depend on military strength to resolve disputes with their neighbours.